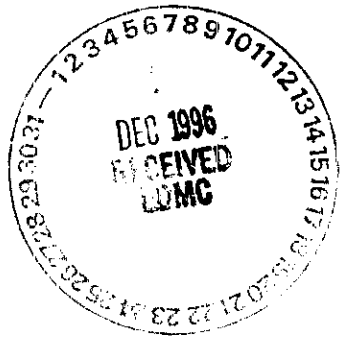
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD PROJECT OFFICE
712 SWIFT BOULEVARD, SUITE 5
RICHLAND, WASHINGTON 99352

December 3, 1996



Jeff Bruggeman
Department of Energy
Richland Operations Office
P.O. Box 550, MS H0-12
Richland, WA 99352

Re: Comments on the *Engineering Evaluation for the 233-S Plutonium Facility*

Dear Mr. Bruggeman:

The U.S. Environmental Protection Agency has completed the review of the document *Engineering Evaluation for the 233-S Facility*, (DOE/RL-96-93, Draft A, November 1996).

An electronic version of the comments has been forward via cc:mail for your convenience.

If you have any questions or concerns regarding these comments, please contact me at (509) 376-4919.

Sincerely,

Pamela A. Innis

Pamela S. Innis
233-S Project Manager
U. S. Environmental Protection Agency

Enclosure

cc: Administrative Record, REDOX
Rick Poeton, EPA

INTRODUCTION

The U.S. Environmental Protection Agency has completed the review of the document *Engineering Evaluation for the 233-S Facility* (DOE/RL-96-93, Draft A, November 1996). This document evaluates options for a removal action at the 233-S Plutonium Concentration Facility.

The following comments are based on a review of the subject draft considering the background information provided in referenced and the previous comments provided by the Department of Ecology.

GENERAL COMMENTS

The document should be expanded to include additional discussions specific to previous waste removal actions taken at the 233-S Facility. Information should be provided concerning quantities of contaminants and wastes removed, waste handling information, waste treatment actions implemented, problems encountered during decommissioning activities including lessons learned, and waste disposition actions taken.

A general project schedule should be included within the EE/CA for the preferred alternative.

It is unclear why the title of the document was changed from "EE/CA ..." to "Engineering Evaluation ... ". The terminology used within 40 CFR Part 300.415 is EE/CA.

SPECIFIC COMMENTS

Section 1.0, page 1-1, first paragraph, last sentence:

The reference to the footnote specific to removal actions should be included in this sentence.

Section 1.0, page 1-1, second paragraph:

Delete the reference to Ecology in the first sentence and provide a short description of the single regulator concept. Any further Department of Ecology comments on the EE/CA will be evaluated during the public comment period.

Provide a description of the purpose of the EE/CA. For example, the EE/CA provides the framework for the evaluation and selection of a technology from a set of alternatives for a removal action.

Provide a discussion of the pilot demonstration project for this removal in the introduction section. This is a fairly significant effort and it is appropriate to inform the public within this document.

Section 2.1, page 2-1:

The appropriate reference for future land use at this time would be the report entitled *The Future For Hanford: Uses and Cleanup* which describes the consolidated efforts of the Future Site Working Group. The HRA-EIS is in draft form and out for comment at this time and may be an inappropriate reference.

Figures 2-2 and 2-3, pages 2-3 and 2-4:

Increase the clarity of the lettering in these figures.

Section 2.2.2, page 2-9:

In the last sentence, specify the type of contaminate (Pu?) that recontaminated the load-out hood.

This section should be updated to include any additional work that has been completed to stabilize the integrity of the facility (i.e., roof work done this year).

A description should be provided of ongoing decontamination activities required in the 233-S Facility in relation to alpha contamination.

Section 2.3, page 2-11, second paragraph:

The intent of the first sentence is unclear. Some background information on this statement may clarify the intent. Additionally, provide a definition of a "minor stack".

Section 2.3, page 2-12:

This section should describe contaminant information gathered during previous investigations. The summary of the document entitled "233-S Facility Potential Chemical Hazards" lists several constituents and substances historically used at the facility . The discrepancy between the previously mentioned report and the list provided in the EE/CA should be resolved.

Additionally, this section notes that the facility has been grouped into six areas for hazard evaluation, however, Table 2-2 provides a seventh category. A description of the purpose of the building wide grouping should be included, as many of the hazardous substances appear duplicative of the specific areas.

Section 3.0, page 3-1:

Specify the type of hazard posed to workers by the 233-S Facility (i.e., radiological, chemical, physical). The scope of this statement may be increased to specify that the intent is to reduce/prevent long term exposure potential to radiological and hazardous constituents as well as physical hazards. Additionally, the RAOs should also include attaining ARAR to the extent practicable.

Section 4.0, General Comment:

The cost tables and descriptions should be moved from this section to Section 5.7 to facilitate a complete comparison within the "cost" criterion..

Section 4.0, page 4-1:

Spell out Surveillance and Maintenance in the alternative listing for clarity.

Section 4.0, page 4-6:

Table 4-1 of the EE/CA implies that upgrades will be necessary in addition to S&M, yet no discussion of upgrades is given in the S&M description. Information concerning the upgrades should be identified as part of alternative..

Section 4.3, pages 4-4 to 4-5:

It is assumed that the continued S&M option would included limited decontamination or application of a fixative to control spread of radiological constituents. A short discussion of this action should be provided in this alternative.

It is unclear, from the provided description, what is meant by the notation in the cost tables entitled "upgrades". A general description of the expected upgrades should be provided.

Subsurface monitoring is included in the decontamination w/reduced S&M alterative, but is not included in the S&M alternative. Assuming that the S&M alternative, if implemented, would be long term, inclusion of subsurface monitoring would be expected. Include a description of subsurface monitoring in this alternative and adjust cost table appropriately.

Section 4.4, pages 4-7 & 4-8:

It is unclear, from the description, if subsurface monitoring costs are included within the annual S&M activities. Also, it is unclear if vadose zone monitoring is under consideration for long term monitoring, as the description discusses adequacy of groundwater monitoring.

Table 4-2, page 4-8:

Costs specified under waste disposal should be broken down specific to waste type for clarity. It is also unclear if the mixed waste specified is TRU or non-TRU and if it is non-TRU, why storage cost for CWC costs are specified rather than ERDF disposal costs. Also, assuming the provided cost assumptions per cubic yard, the total cost for disposal does not calculate out to coincide with the figures provided. In addition, transportation costs for TRU material should be a line item within the table.

Additionally, the up-front costs of installation of subsurface monitoring equipment should be a

line item cost in the table. Also, it is unclear if the costs associated with sampling for worker safety and necessary design information, including field surveys, are included within the waste characterization costs specified. Finally, it is unclear where verification sampling for wastes left in place is included.

Section 4.5, page 4-10:

Provide justification for not including soils in this removal action. If a limited amount of contaminated soil remains after demolition of the facility, it may be prudent to remove the material during the action. Criteria should be established during the design phase for determining whether soils will be removed as part of the action.

Table 4-3, page 4-11:

The mobilization costs specified in Table 4-2 are increased by a factor of 100 in Table 4-3. Correct the error or provide justification for the increased cost.

Costs specified under waste disposal should be broken down specific to waste type for clarity. It is also unclear if the mixed waste specified is TRU or non-TRU and if it is non-TRU, why storage cost for CWC costs are specified rather than ERDF disposal costs. Also, assuming the provided cost assumptions per cubic yard, the total cost for disposal does not calculate out to coincide with the figures provided. In addition, transportation costs for TRU and clean material should be a line item within the table..

It is unclear where costs associated with verification sampling of soils prior to capping are included. Also, it is unclear if the costs associated with sampling for worker safety and necessary design information, including field surveys, are included within the waste characterization costs specified.

Section 5.1, page 5-1:

The first paragraph shoul also specify the the overall protection criterion draws on the assessment of the other evaluation criteria.

Section 5.1 was not revised as per Ecology comment 48 and the response provided. At a minimum, this section should discuss the deficiency of information concerning inventory and the associated implications when determining risks.

This section does not differentiate between alternative three and four. Provide some discussion on the differences between these two alternatives concerning overall protection of human health and the environment.

Section 5.2, page 5-2:

ARAR for removal action should be met to the exent practicable considering the urgency of the situation and the scope of the removal.

Section 5.2.1, page 5-2 & 5-3:

Waste management standards for plutonium wastes should address 40 CFR 191 (Environmental Radiation Protection Standard for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes).

It should be noted that offsite transportation of waste shall comply with the appropriate DOT standards.

The sentence that begins with "Treatment requirements..." is confusing. It is recommended that the sentence end after "Waste Acceptance Criteria". Additionally, the state did not approve the ERDF Waste Acceptance Criteria.

Section 5.2.2, page 5-3:

The fourth paragraph in Section 5.10 really belongs in this section to address NESHAPs requirements.

40 CFR 61 also requires monitoring point sources to determine compliance. The type of monitoring required depends on the potential radiation doses to the public. While it is likely that "periodic confirmatory" measurements will meet this requirement, monitoring requirements should be specifically evaluated for 233-S operations, consistent with 40 CFR 61 and this section should state that those requirements will be met.

Note that estimates of emissions for all types (point, fugitive, diffuse) will be needed to demonstrate compliance with the 10 mrem/year NESHAP standard.

It is not clear whether "standard construction techniques" include radiological controls such as HEPA filters.

BARCT determinations are ordinarily made on a case-by-case basis by the State. It is not clear in this case whether "standard construction techniques" would constitute BARCT. Analogies with BARCT criteria used on other similar operations at Hanford may be helpful. In any event a more clear description of the BARCT process is needed.

Section 5.2.4, page 5-4:

The discussion of implementation of the 10 CFR 835 ARAR should specifically address the Hanford Radiation Control Manual and should specify applicable ALARA program/procedures.

Worker radiation protection criteria should include EPA Radiation Protection Guidance to Federal Agencies for Occupational Exposure (Federal Register, January 27, 1987).

Section 5.2.7, pages 5-6:

Requirements in DOE Orders are "to be considered", not "relevant and appropriate" as specified in the text.

Section 5.5, page 5-8:

This section should compare radiation exposure to workers (person-rem) estimates for the alternatives.

The reason for evaluating the RAOs under the short-term effectiveness criterion is unclear. It would seem more appropriate to discuss RAOs in Section 5.1. Additionally, no discussion of the RAOs with respect to alternatives three and four is given. Also, it is unclear what is meant in the last sentence of the second paragraph. The second alternative does not meet all of the RAOs (i.e., reduce threat, achieve life cycle cost effectiveness) and a discussion should be provided concerning this.

Section 5.8, page 5-10:

The state acceptance criterion also evaluates the position of the state concerning the preferred alternative (i.e., concur, oppose or no comment). This criterion will be addressed during the public comment period.

Section 5.10, page 5-11:

Cumulative impacts is defined as "an impact which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions". Cumulative impacts should include impacts on available resources, including manpower and transportation needs, and impacts on actions in adjacent areas with respect to the different options. A further discussion of cumulative impacts should be completed.

Section 6.0, page 6-1:

This section should begin with "Based on the comparative analysis for each evaluation criterion, the recommended...".

Appendix A, Section 2.2.2, page A-8, first paragraph

Contamination levels in the non-process areas subsequent to recent decontamination should be summarized, rather than "assumed to be negligible".

Appendix A, Section 3.2.2, page A-8 & A-9:

The second and fourth sentences of the second paragraph are repetitive. Delete the fourth sentence.

The third paragraph discusses air emissions. DOE 1994 only addresses emissions risks due to fire. Additional information should be provided concerning other emission sources.

Cracking failure of portions of the roof are part of the justification for action. The effectiveness of existing HEPA systems should be addressed considering possible loss of airflow boundary integrity.

There is no discussion of physical hazards related to deteriorating building conditions, including hazards from potential roof or wall failure or spalling of interior wall and ceiling material.

Appendix A, Section 3.3.2:

The high external radiation levels in the process hood (see Section 2.3.1) should be addressed in the hazard evaluation.

The sentence in the third paragraph beginning with "Other areas of lesser contamination..." should be clarified.

Provide a description of the "technical and administrative controls" needed for the exhaust system described in the third paragraph.

Appendix A, Section 3.4.2:

It is unclear why the level of hazard evaluation provided for the D&D alternative is not as significant as that for Decon w/S&M. Provide additional detail for this alternative or reference the appropriate paragraphs in the Decon alternative.

The high external radiation levels in the process hood (see Section 2.3.1, page 2-14) should be addressed in the hazard evaluation.